


Congruency

- 3 sides of a triangle
 - 3 angles of a triangle
- 
- Original criteria

"Shortcuts"

SSS: side-side-side

Need 3 congruent sides

SAS: side-angle-side

Need 2 congruent sides and a congruent angle between the sides

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"Shortcuts" (continued)

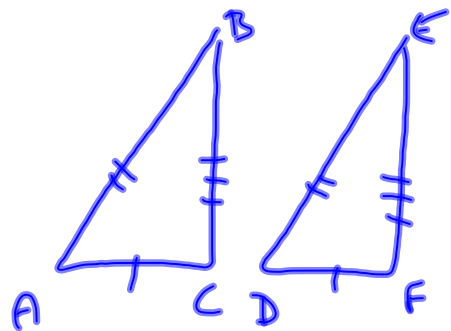
AAS: angle-angle-side

Need 2 congruent angles and a congruent side next to either one of the angles (but not between them).

ASA: angle-side-angle

Need 2 congruent angles and a congruent side between the angles

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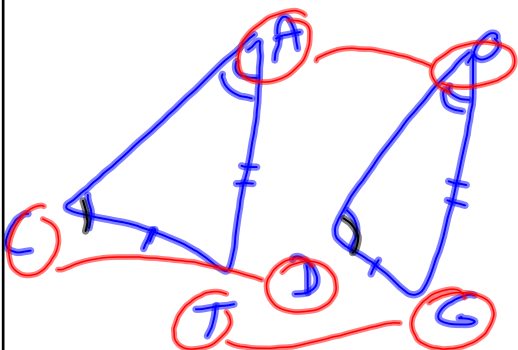
Congruent by
SSS

Can't use SAS
we don't know
any angles

Use SSS

Use SAS

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Can't use SAS
Can use AAS.

Use SAS?

Use AAS?

$$\triangle CAT \cong \triangle DOG$$

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$$\triangle CAT \cong \triangle DOG$$

Valid

$$\triangle CAT \cong \triangle DOG$$

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② Draw

① Given

$$\triangle XYZ \cong \triangle RQS$$

$$\triangle YXZ \cong \triangle SRQ *$$

③ Determine Line Segments

$$\overline{YX} \cong \overline{SR}$$

$$\begin{matrix} 12 & 12 \end{matrix}$$

$$\overline{XZ} \cong \overline{RQ}$$

$$\begin{matrix} 23 & 23 \end{matrix}$$

$$\overline{YZ} \cong \overline{SQ}$$

$$\begin{matrix} 13 & 13 \end{matrix}$$

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Proof

Given: $\overline{BC} \cong \overline{DC}$

$$\begin{matrix} 12 & 12 \\ \overline{AC} \cong \overline{EC} & \end{matrix}$$

Prove: $\triangle ABC \cong \triangle EDC$

$$\begin{matrix} 312 & 312 \end{matrix}$$

Statement	Reason
$\overline{BC} \cong \overline{DC}$	Given
$\overline{AC} \cong \overline{EC}$	Given
$\angle BCA \cong \angle ECD$	Vertical angles
$\triangle ABC \cong \triangle EDC$	SAS

Nov 2-8:15 AM